REPORT REFERENCE

1. B.C. Place Transportation Alternatives

Before Council was a City Manager's Report dated November 23, 1981, in which the City Engineer and the Director of Planning presented a summary of the investigation of transportation alternatives for B.C. Place carried out to date by City staff, and recommended a number of alternatives for further detailed examination, as follows:

Alternative 'B' - reduced grid system

Alternative 'C' - "spine road" plan

Alternative 'F' - B.C. Place's suggested alternative

Alternative 'H' - a pair of narrower 2-way roads.

The following alternatives were rejected on the basis of preliminary criteria:

Alternative 'A' - extension of the existing grid system

Alternative 'C' - discontinuous road system with transit connections

Alternative 'D' - discontinuous road system

Alternative 'E' - minimum extension of existing grid.

The report outlined the threshold criteria established for the investigation, basic objectives and measurements. City staff had examined the eight alternative proposals for the B.C. Place roadway. The City Engineer and the Director of Planning recommended:

"That Alternative 'B', 'C', 'F' and 'H' be selected for further detailed examination by the City and BC Place, with input from the Citizens Advisory Committee and other interested groups. This process will include land use allocation and urban design analysis and the objectives and evaluation criteria set out in Appendix I, for report back on February 1, 1982."

Mr. J. Carline, Associate Director, Central Area Planning; Mr. W. Curtis, City Engineer; and Mr. T. Mulder, Assistant City Engineer, Traffic Division, reviewed the report for Council's information. By means of maps, City staff commented on each of the proposals considered by them.

Mr. G. Hardman, President, B.C. Place, indicated they support closing or limiting the use of Pacific Street. It is intended not only to build viewpoints, but also areas where the public can park and enjoy the ambiance of B.C. Place. He is not in favour of a waterfront roadway.

Cont'd....

REPORT REFERENCE (Cont'd)

B.C. Place Transportation
Alternatives (cont'd)

Mr. D. Podmore, Director of Planning and Development, B.C. Place, expressed B.C. Place officials' views on the alternative proposals. He indicated that the timing of the road system is of great concern to B.C. Place as they are required to deliver a completely serviced site to Expo '86 by January 1, 1984. In addition, the Fall of 1982 has been set as the goal for provisions of the first properties for housing. B.C. Place favours Alternatives C and F.

Council also had for consideration two documents from the B.C. Place Citizens' Advisory Committee; one on basic principles which could be applied as criteria for judging specific aspects of the development; the other a report on the current roadway proposals.

Mr. G. Sirotnik, B.C. Place Citizens' Advisory Committee, presented the Committee's statement of proposals and reviewed them for Council. The report contains seven principles which are:

"1. B.C. Place must be accountable to the public and the quality of development must be excellent.

2. B.C. Place must have an overall guiding vision.

3. The planning process must be well coordinated and involve the public.

4. The size and scale of development must be compatible with its site.

5. B.C. Place must integrate with the rest of the city.

6. B.C. Place must protect and enhance False Creek.

7. Social and economic impacts must be assessed before decisions are made."

Mrs. H. Symonds, Chairman, B.C. Place Citizens' Advisory Committee, then reviewed the Committee's report on the proposed roadway system, B.C. Place. The Committee recommended as follows:

"(1) THAT proposed road alternatives "C", "D" and "F" be selected for further detailed examination;

(2) THAT design work be subject to intensive social and economic impact assessment in regard to;

(a) the livability of surrounding residential neighbourhoods,

(b) the maintenance of the unique historic features of Yaletown,

(c) the existing congestion in downtown, and

(d) access and special facilities for the handicapped;

(3) THAT park'n'ride systems be designed without delay;

Cont'd....

REPORT REFERENCE (Cont'd)

B.C. Place Transportation
Alternatives (cont'd)

(4) THAT consideration be given to construction of further parking facilities within a reasonable walking distance of the stadium;

(5) THAT innovative incentives be explored and devised to encourage the use of public transit for stadium events;

(6) THAT careful consideration be given to such practical matters as the availability of drivers and buses;

(7) THAT before any major decision is finally made on the roadway systems there should be ample opportunity for the public to comment."

MOVED by Ald. Brown,
THAT Alternatives 'C', 'D' and 'F' be selected for further detailed examination by the City and B.C. Place, with maximum input from the Citizens' Advisory Committee and other interested groups. This process to include land use allocation and urban design analysis and the objectives and evaluation criteria set out in Appendix I of the City Manager's Report dated November 23, 1981, for report back to Council on February 1, 1982.

- Carried

MOVED by Ald. Yorke,
THAT the aforementioned motion be amended by including Alternative "H" in the recommendations.

- Lost

It was agreed that Council would vote separately on each of the foregoing alternatives, and the results of the vote were:

Selection of Alternative "C" - CARRIED UNANIMOUSLY

Selection of Alternative "D" - CARRIED
(Aldermen Kennedy and Puil opposed)

Selection of Alternative "F" - CARRIED UNANIMOUSLY

Selection of Alternative "H" - LOST
(Aldermen Bellamy, Boyce, Brown, Divinsky, Ford, Kennedy and Puil opposed)

MOVED by Ald. Brown,
THAT the presentations of the Citizens' Advisory Committee be received for further review.

- CARRIED UNANIMOUSLY

DISTRIBUTED MANAGER'S REPORT

November 23, 1981

TO: Vancouver City Council

SUBJECT: B.C. Place Transportation Alternatives

CLASSIFICATION: RECOMMENDATION

The City Engineer and Director of Planning report as follows:

"PURPOSE OF REPORT

The purpose of this report is to present a summary of the investigation of transportation alternatives for B.C. Place carried out to date by your officials, and to recommend a number of alternatives for further detailed examination.

In accordance with the direction provided in Council's September 29, 1981, resolution on this matter, any alternative selected at this time would undergo land use allocation and urban design analysis, including traffic impacts and traffic management programs required, for further report to Council on February 1, 1982, for a final decision on alignment and design at that time.

Cost-sharing proposals will be the subject of separate reports prior to a decision being made to proceed with construction.

BACKGROUND

On September 29, 1981, Council adopted the following motion:

(a) THAT Council approve re-alignment of the north end of the Cambie Bridge to connect to a Nelson/Smithe couplet, including ramps to access the B.C. Place roadway system east of Nelson, and confirm that design work should proceed. City staff to report back on cost-sharing alternatives prior to a decision being made to proceed with construction.

(b) THAT Council approve commencement of roadway, sewer and water system design for the Cambie Bridge east, around the stadium, and the connection to Quebec Street; staff to report back for approval of detailed design and cost-sharing proposals prior to a decision being made to proceed with construction.

(c) THAT Council agree that design may commence, at B.C. Place's risk, on road, sewer and water system for the area lying west of the Cambie Bridge based on the presently proposed preliminary alignment. B.C. Place agrees to remain open during the period up to February 1st, 1982, to make changes in alignment or design. City staff to report back at an early date on cost-sharing proposals related to services provided to Yaletown.

COMMENT

During the period up to December 1, 1981, B.C. Place will review, in the context of emerging development proposals for the B.C. Place site, previously-considered and any newly-proposed alternatives for the roadway design west of the Cambie Bridge with City staff and the Citizens Advisory Committee. This review will explore whether any of these alternatives present opportunities for developing either a better urban form for B.C. Place or could reduce potential adverse impacts on adjoining neighbourhoods without serious detriment to the traffic systems of B.C. Place.

If one or more alternatives are deemed worth further exploration by City Council, which they will seek to determine by December 1, 1981, B.C. Place will develop urban designs for such alternatives.

If, as a result of these explorations, changes are made in the final road layout adopted, B.C. Place will pay the costs of any wasted design fees. If not, then all such design fees will form part of any agreed cost-sharing arrangements.

(d) THAT, before roadway designs are finalized, B.C. Place be requested to work with City staff on a report to Council on traffic impacts and traffic management programs, with particular reference to emphasis on the use of public transit, the establishment of a 'part-and-ride' system, and to the resolution of concerns put forward by the public on this matter, with consideration being given to the steps proposed by B.C. Place in its brief dated August 31, 1981, and its letter dated September 15, 1981.

...../2.

(e) THAT both Council and B.C. Place agree that Council's approval for design to proceed as outlined in items (a), (b) and (c) above does not imply an acceptance of a plan for land use, density and urban form at this time. This plan, together with any alternatives, remains to be presented by B.C. Place and C[illegible] staff along with further information related to housing studies, traffic and other impacts, etc., and will be subject to public review and consideratio[illegible] by Council.

PROCESS

Over the past few months staff have developed preliminary positions regarding the nature and scale of the various components of probable B.C. Place development. These positions* are subject to Council and B.C. Place discussion over the next few months and are outlined below:

(a) Office

The rezoning of B.C. Place lands for office use would lead to a net addition to the total amount of office space in the central core than would normally occur over the same time period. In addition to the direct impacts of this growth, there is the question of impacts on the Livable Region Program through competition with the town centres. This refers primarily to potential office space users with preference for downtown for reasons of amenity, accessibility, etc., but which could be induced to locate elsewhere, i.e. they could be candidates for decentralization and could form the nucleus of a regional town centre. And, finally, the principle that office space should not be permitted where residential development is a reasonable alternative was considered. These factors, when coupled with a preliminary notion that B.C. Place office space should not be developed to greater densities than that allowed in adjacent downtown areas, led to the conclusion that approximately two to three million sq. ft. of office space would be acceptable.

(b) Housing

The number of dwelling units should be maximized, consistent with livability and a socially viable community, with a target of 8,000-10,000 units. The housing should be suitable to downtown employees at all income levels, with a significant portion being affordable, i.e. 30-40% non-market housing and 20-30% Special Purchase Plan. There should also be a strong emphasis on family housing, with a target of 30%.

(c) Parks and Recreation Services

The needs of visitors and workers must be considered in the plan but the quality of life for residents must take highest priority. Therefore, neighbourhood parkland is a key element of the livable community. In high density areas it takes on a greater importance. The Board is proposing that 61 acres of parkland be dedicated in B.C. Place comprising 13.5 acres of waterfront walkway, nodes and connectors, and 47.5 acres of neighbourhood parks, small local parks and children's playgrounds. The non-residential open spaces suggested by B.C. Place are supported enthusiastically but they should not be considered as replacing parks.

TRANSPORTATION ALTERNATIVES

In brief, eight alternative systems and configurations have been identified. As a first step, these have been screened against a series of preliminary criteria, to result in the selection of four systems for further detailed evaluation. This screening process has involved staff of three departments and the Parks Board, as well as the Citizens' Advisory Committee and Council itself. In subsequent analysis, the four systems will be analyzed against eight objectives relating directly or indirectly to the transportation system.

Staff have already met with the Citizens' Committee to discuss this process, and obtained a considerable amount of input and evaluation from its members. Representativ[illegible] of the Committee were also present at the November 19 informal meeting of Council and staff where the alternatives and preliminary analysis were discussed. At the time of writing, an additional meeting is scheduled with the Committee on November 23, to discuss alternatives and obtain further input. At the Council meeting on November 24, the Citizens' Committee is expected to present its own report.

*Position papers on each of these subject areas are on file in the City Clerk's office.

..../3.

Inthe course of this analysis, we have also spoken with other interested parties, notably with GVRD & MTOC staff on transit issues, and with B.C. Place officials.

CC 63-MLH-75

The Alternatives rejected on the basis of preliminary criteria were:

Alternative A - (extension of the existing grid system) on the basis of cost, lane area, school access, parks and Expo 86;

Alternative D - (Discontinuous Road System) on the basis of transit patronage, neighbourhood impact, inadequate capacity, and poorer emergency access;

Alternative E - (mimimum extension of existing grid) on the basis of cost, neighbourhood impact and school access;

Alternative G - (Discontinuous Road System with Transit connections) on the basis of capacity and neighbourhood impact.

As a result, the alternatives to be examined in further detail are identified as Alternative 'B' (reduced grid system), Alternative 'F' (B.C. Place's suggested alternative), and Alternative 'H' (a pair of narrower 2-way roads), in addition to the 'spine road' plan (Alternative 'C'). All of the alternatives to the original B.C. Place proposal have problems which must be resolved. It is expected this can be done in the next phase of the evaluation.

RECOMMENDATION

Accordingly, the City Engineer and Director of Planning RECOMMEND that Alternative 'B', 'C', 'F' and 'H' be selected for further detailed examination by the City and BC Place, with input from the Citizens Advisory Committee and other interested groups. This process will include landuse allocation and urban design analysis and the objectives and evaluation criteria set out in Appendix I, for report back on February 1, 1982.

The City Manager RECOMMENDS that the foregoing recommendation of the City Engineer and Director of Planning be approved.

* Alternatives C, F, and D were approved by Council on Nov. 24, 1981 for further study.

EVALUATION OF B.C. PLACE TRANSPORTATION ALTERNATIVES

PROCESS

The process of evaluating transportation alternatives progresses through three stages, as indicated below and in the attached diagram:

a. identify possible alternatives;

b. screen alternatives to reduce their number. By December 1, 1981, the number of feasible alternatives should be no more than 3 or 4;

c. detailed analysis of alternatives, between December 1, 1981 and February 1, 1982, resulting in the selection of preferred alternative on February 1, 1982.

The first step of identifying possible alternatives resulted in the generation of eight alternatives. The next step is screening the alternatives to determine which of possible alternatives are feasible. Each alternative must pass certain basic requirements or "threshold criteria". For example, we must be able to afford the alternative or we may require some particular feature such as ability to contain a park of a certain size. And, of course, it must meet certain universal minimum engineering requirements. This step normally substantially reduces the number of alternatives, leaving us with a few feasible alternatives, between which we must then choose.

The threshold criteria established are as follows:

1. Cost

In this context, total cost is considered. This includes the capital cost of streets and transit facilities, as well as a measure of expected operating and maintenance costs for both. A number of the alternatives are roughly equal in this regard, and have been chosen as the base line for cost. Any alternative exceeding the base line by more than one-third is to be rejected.

2. Land Area

Streets occupy a substantial proportion of the City. In traditionally developed areas, this proportion is approximately 35%. In newer areas with improved subdivision design, it should be possible to reduce this proportion to approximately 20-25%. At the lower end of this range, the burden on property owners of providing all parking, maneuvring, loading, etc. off-street becomes a limiting factor. As a threshold criterion, the land dedicated to streets should be less than 30% of the site area.

3. Transit

An emphasis on transit is planned. Some alternatives are more successful than others, and this will be evaluated in the detailed analysis of objectives. At the very least, all alternatives should improve over the current situation, i.e. 50% transit in peak hours.

4. Neighbourhood Impact

The degree of impact on areas such as the West End, Downtown Core, south downtown, Yaletown, Chinatown and Strathcona is a major factor to be evaluated in the objectives. The minimum criterion for an alternative to qualify is that it should be capable of operating without routing arterial access traffic through the adjoining areas. The extent to which qualifying alternatives succeed in this will be evaluated under objective 3, and will depend on good design.

5. Parks

A basic requirement for the park system is that the capability of providing 3 10-acre parks be maintained.

6. Capacity

Access may be garnered by different combinations of transit, auto, pedestrians, etc. An alternative is rejected if the sum of all modes is incapable of meeting the needs of the site.

7. Safety

To qualify, an alternative must be accessible to emergency vehicles and must not introduce undue accident hazards.

8. Internal Barriers

The internal streets should not present unreasonable barriers to pedestrians, either those destined to the waterfront or commuters to downtown.

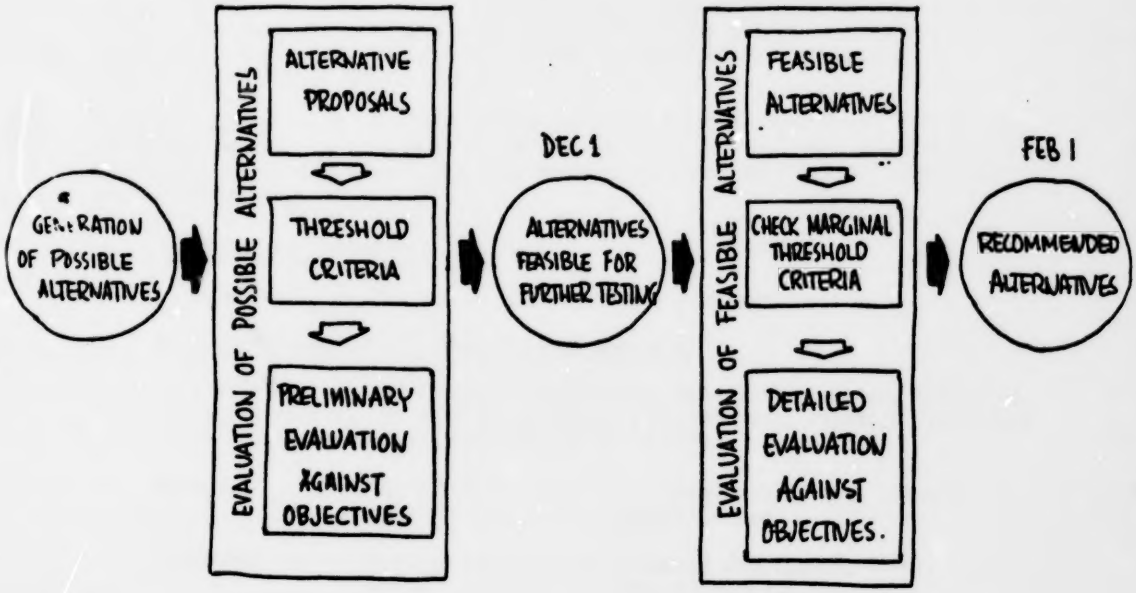
9. School Areas

The plan should permit location of a school or schools on-site so that most children do not have to cross an arterial road.

10. Expo '86

The roadway plan must respect the boundaries of Expo '86, and be capable of operating in a feasible mode while Expo is under construction and in progress.

PROCESS FOR EVALUATION OF B.C. PLACE ALTERNATIVES



INTRODUCTION - OBJECTIVES

In order to evaluate varying roadway alternatives, it is necessary to establish the objectives that the system is intended to accomplish. However, this is not in itself sufficient; there must also be a means of objectively determining whether each alternative meets each objective. Thus, a series of measurements are proposed in order to achieve this. Finally, there must be a method of weighting each of the objectives, for some goals are clearly more important than others. Each individual may have different weights to apply to each of the objectives; the eventual decision inevitably represents a group consensus or compromise on these varying individual opinions.

However, an alternative's ability to rank high in meeting objectives does not necessarily mean that the alternative is attainable. The alternative must meet certain threshold requirements. For example, it must be within one's pocket book; you cannot buy a Mercedes-Benz when you can only afford a Volkswagen. It also must be technically feasible; we cannot adopt a scheme requiring 500 buses when only 150 can be obtained within the time available.

In carrying out this analysis, three underlying principles prevail; these are that:

a. Adequate access must be provided to BC Place with strong emphasis on transit; it should not be an unknown isolated enclave.

b. BC Place should be an asset to the City, and, in particular, it must be a good neighbour to nearby areas, including the West End, Strathcona and Yaletown.

c. The transportation costs to society and its members should be minimized.

Furthermore, in developing and assessing alternatives, a range of assumptions has been followed. These include the assumption that the Amphitheatre will be completed, but that other development of the BC Place site is as yet unresolved. It is assumed that LRT will pass through the site, with a station in the vicinity of Beatty Street. Other transit services will also be needed to service BC Place fully. Reconstruction of the north end of Connaught Bridge is also assumed, along with other elements of the Downtown Transportation Plan such as pedestrianization of Robson Street.

To assess the success of alternatives in meeting these objectives, a form of measuring this success must be developed. For this purpose, the basic objectives have been translated into methods by which they are achieved, and measurements proposed.

OBJECTIVES AND MEASUREMENTS

The following basic objectives for BC Place have been defined:

1. Adequate access of all types must be provided

   This will include pedestrian transit, auto, handicapped, water, truck and emergency access. As well as residents and employees, visitors from other areas should be able to reach the BC Place site.

   Method: Balance street capacity to developable land, without encouraging excessive automobile use.

   Measurements:
   - traffic generated by proposed development levels
   - useable capacity of internal streets

   Method: Provide connections to and from downtown access routes.

   Measurements:
   - capacity of connection to each of Quebec Street, Pender Street, Cambie Street Bridge, downtown, Granville Bridge, Burrard Bridge and First Narrows Bridge.

Method: Provide adequate access for pedestrians and the handicapped.

Measurements:
- number of streets to be crossed exceeding 4 traffic lanes in width
- spacing between pedestrian crossings in excess of 150m.
- all pedestrian routes to be free of barriers to the handicapped

Method: Maintain flexibility to operate transportation system under varying conditions.

Measurements:
- reaction of system to Amphitheatre events
- feasibility of system during EXPO 86
- reaction of system to traffic overload
- reaction of system during unusual events, e.g. fire, street closure, etc.
- provision of people mover corridor
- provision of interchange opportunities for water-borne transportation

Method: Provide adequate emergency access.

Measurements:
- directness of route from firehalls and police station
- accessibility of all developed areas within 3 minutes
- bypass congested areas

2. <u>There must be a strong emphasis on transit use</u>

BC Place occupies prime land in the downtown core, and cannot be dependent on automobile use as a suburban development would. As well as LRT, local services using buses or other technology will also be needed. This local service should provide attractive and direct travel to as many destinations as possible, so as to provide a viable alternative to the automobile.

Method: Provide suitable transit facilities so as to maximize use of transit.

Measurements:
- number of residents within 400m of transit route
- number of employees within 400m of transit route
- travel time by transit to downtown
- number of destinations served by transit
- cost of operating transit route
- predicted modal split

3. <u>BC Place must avoid undesirable traffic and parking impacts on neighbouring areas</u>

One stated reason for placing the Amphitheatre downtown was to add business for the existing restaurants, shops, etc. However, established residential areas such as the West End and Strathcona must be protected from through traffic and parking overspill. Yaletown will require careful examination in this regard.

Method: Avoid traffic and parking impacts on the West End, Strathcona and Chinatown.

Measurements:
- adequacy of access routes that avoid the West End (i.e. ring road)
- sufficiency of parking on Western portion of the BC Place site
- adequacy of access routes that avoid Strathcona (i.e. Hastings, Terminal)
- sufficiency of parking on eastern portion of site
- number of streets protected from through traffic
- avoidance of impact on Pender Street and Chinatown

Method: Maintain and enhance ambience of Yaletown.

Measurements:
- number of Yaletown streets protected from through traffic
- number of excess parking spaces on BC Place site available to serve Yaletown
- compatibility of adjacent development

Method: Prevent loss of access to adjoining areas.

Measurements:
- balance of capacity into the West End with access needs of its occupants
- balance of capacity into the Yaletown with access needs of its occupants
- balance of capacity into Strathcona with access needs of its occupants

4. To avoid creation of an isolated enclave, the principle streets approaching and within the site should be inviting, continuous and understandable, without forming a barrier

BC Place has been described as an attractive destination where people from all parts of British Columbia can visit and see pavilions, parks, the water's edge, etc. This will not be possible if BC Place is an introverted, private enclave like the south shore of False Creek. To make BC Place more inviting, the principle streets should be amenable and understandable. This would be best achieved by making them attractive, open, and continuous routes, as opposed to the narrow, discontinuous streets in Area 6.

Method: Provide an understandable street system.

Measurements:
- number of principle approach routes entering site
- continuity of these routes
- accessibility of these routes to public destinations.

Method: Avoid perception of a barrier to pedestrian movement.

Measurements:
- number of recognizable pedestrian routes to adjoining areas

5. There must be contact with the water's edge for residents and visitors alike

Development in other waterfront areas has respected the public need for access to the water's edge (e.g. False Creek South, English Bay and Central Waterfront), although some of these have been more successful than others. To be fully successful, BC Place must provide full pedestrian access to and along the waterfront. In addition, vehicles must be able to reach the waterfront, and drive along short portions.

Method: Provide pedestrian and vehicular access to the waterfront.

Measurements:
- length of waterfront open to pedestrians
- number of pedestrian access points
- number of vehicular access points to waterfront
- length of vehicular viewing areas along waterfront

6. BC Place should preserve and enhance views through and within the site

The Robson Street view is already to be blocked by the Amphitheatre. Views from other streets should be kept open. In addition, streets within the development should be arranged to have interesting and varied views.

Method: Maintain street-end views and provide an interesting driving experience.

Measurements:
- number of street-end views maintained open from Homer Street
- variety of views of development, Amphitheatre, etc., from roadways
- availability of water views from roadways

7. The development should be compatible with and contribute to the achievement of the Downtown Transportation Plan

The objectives of the 1975 Downtown Transportation Plan are still valid. These include routing traffic away from sensitive areas such as the West End and Chinatown, as well as reducing traffic in congested core areas and allowing pedestrianization of specified streets.

One element of this plan is the connection of Connaught Bridge onto Smithe and Nelson Streets, thus permitting pedestrian emphasis on Robson Street. BC Place is contributing to the achievement of this element. Another point is the development of the South Bypass, to reduce traffic on the congested core streets. The City has already put considerable investment into this plan, and will expect BC Place to be compatible. One or more corridors for LRT are also to be provided.

Method: Contribute to achievement of the Downtown Transportation Plan.

Measurements:
- usable capacity of South Bypass route
- reduction of traffic on Robson Street
- protection for Chinatown

8. <u>The transportation plan should result in suitable development parcels, with the flexibility to accommodate varying development needs</u>

To a large extent, the plan for streets, LRT, etc., determines the basic plan of subdivision for the site, as well as the location of utilities. The land parcels resulting from this process should be of a suitable size and configuration for attractive and economical development. As the overall plan of development is not yet determined, the subdivision should be capable of accommodating a variety of different proposals, as well as having the flexibility to respond to changes in the plan.

Method: Provide suitable parcels for high-amenity development.

Measurements:
- number of hectares available for development with suitable configuration of parcels and adequate access
- flexibility of subdivision plan to accommodate different development parameters

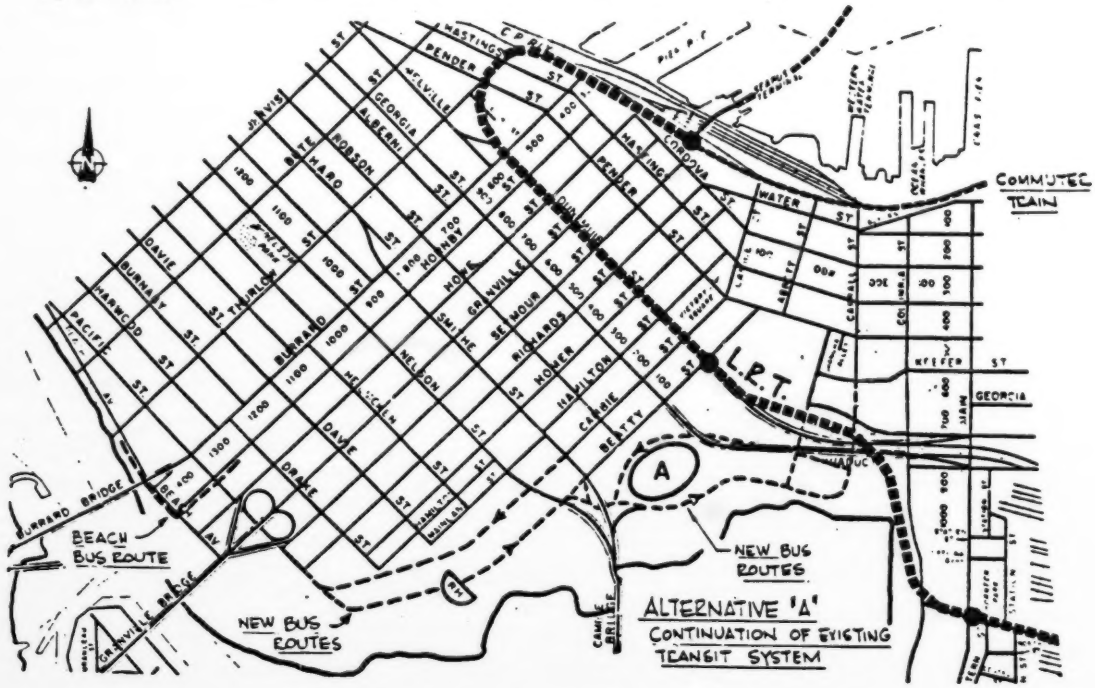
ALTERNATIVE 'A'

EXISTING LEVEL OF DOWNTOWN TRANSIT USE
EXTENSION OF EXISTING STREET SYSTEM

This alternative assumes that BC Place will be treated as simply an extension of existing downtown patterns. At present, 50% of commuters use transit, and the same is assumed for BC Place. This will require completion of the LRT to meet general downtown growth, as well as consideration of the commuter train system. A normal level of bus service on site would be provided. Transit use to the Amphitheatre is expected to double from the present PNE levels, because of the increased accessibility that will be possible at the site. Approximately 4000 parking stalls would be required for the Amphitheatre.

The street system, again, would be based on extension of the existing downtown grid of one-way streets, and at the same density and block size. Local access would be taken from this grid, and some access to the water's edge would be provided. North-south streets in Yaletown would be unaffected, and east-west streets would be developed to normal downtown standards. Pacific Street would be narrowed to one lane each way at Burrard.

A



PACIFIC ST ONE LANE EACH WAY
CONTINUATION OF EXISTING GRID
CONTINUATION OF EXISTING GRID
ALTERNATIVE 'A'
CONTINUATION OF EXISTING STREET SYSTEM

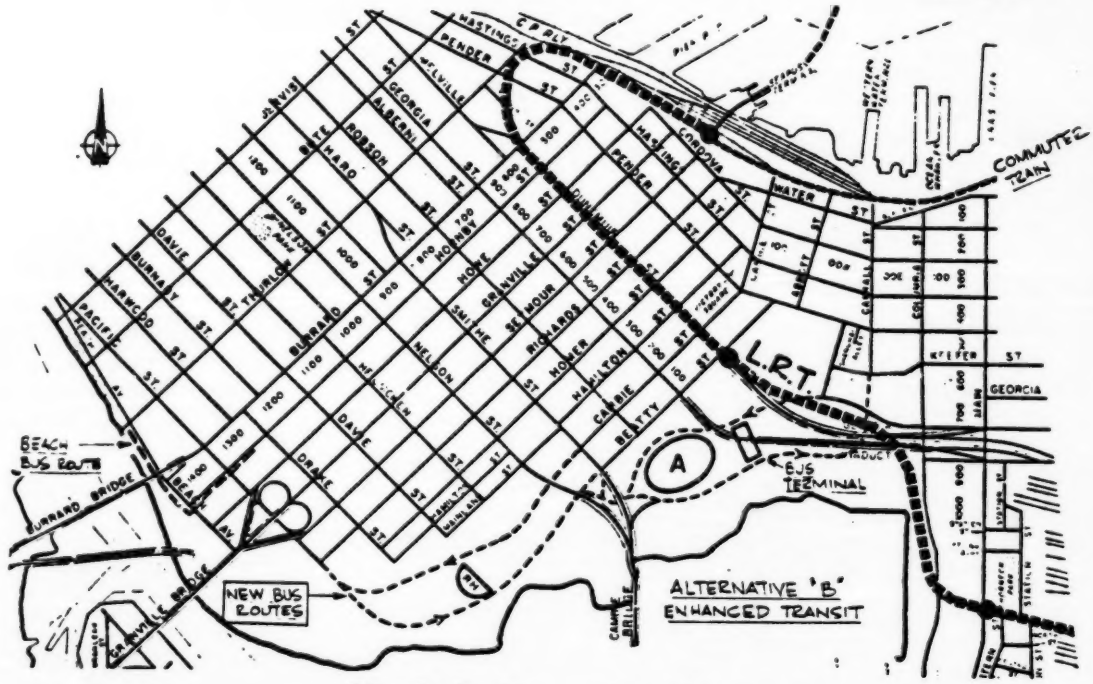
ALTERNATIVE 'B'

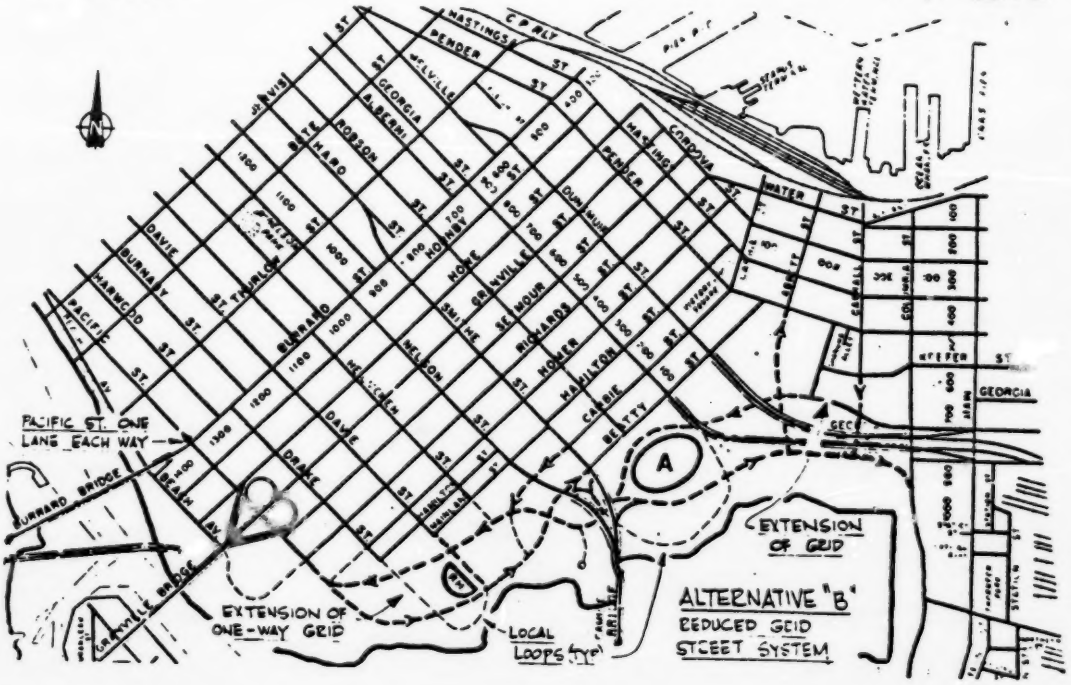
INCREASED TRANSIT USE
MODERATE STREET SYSTEM, REDUCTION FROM THE EXISTING GRID SYSTEM

This alternative aims to raise transit use from the present 50:50 to 60:40. This increase of one-fifth in transit use will mean a substantial change in commuting habits, and will require provision of at least one LRT line and commuter train, as well as direct and convenient bus service. For Amphitheatre events, a concerted effort to provide park-and-ride and shuttle service would increase transit use from the present 5-10% to about 25%, and reduce needed parking stalls to about 2000.

The road system would be based on extensions of the existing grid system, but at a reduced density of streets. Exclusive bus lanes would be possible on approaches to the Amphitheatre. There is no connection to Strathcona, and Pacific Street at Burrard has been limited to only one lane in each direction, the minimum needed to serve West End residents. Local access in BC Place would be primarily from the grid and from some short loops, as well as access to the water's edge.

B





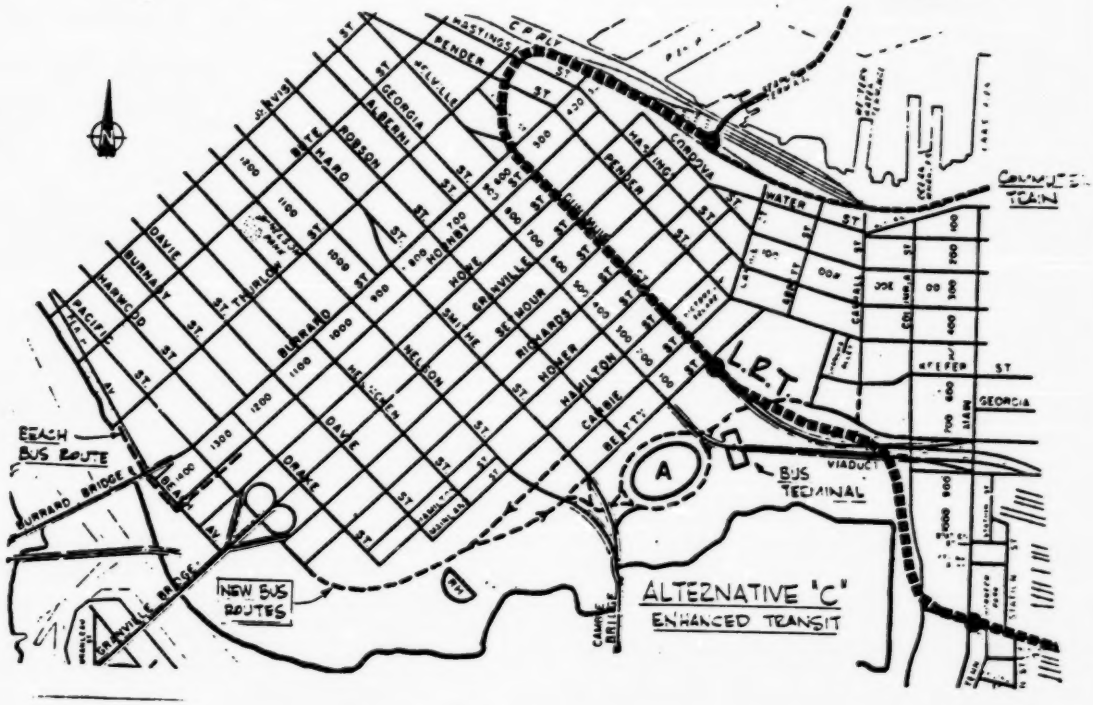
ALTERNATIVE 'C'

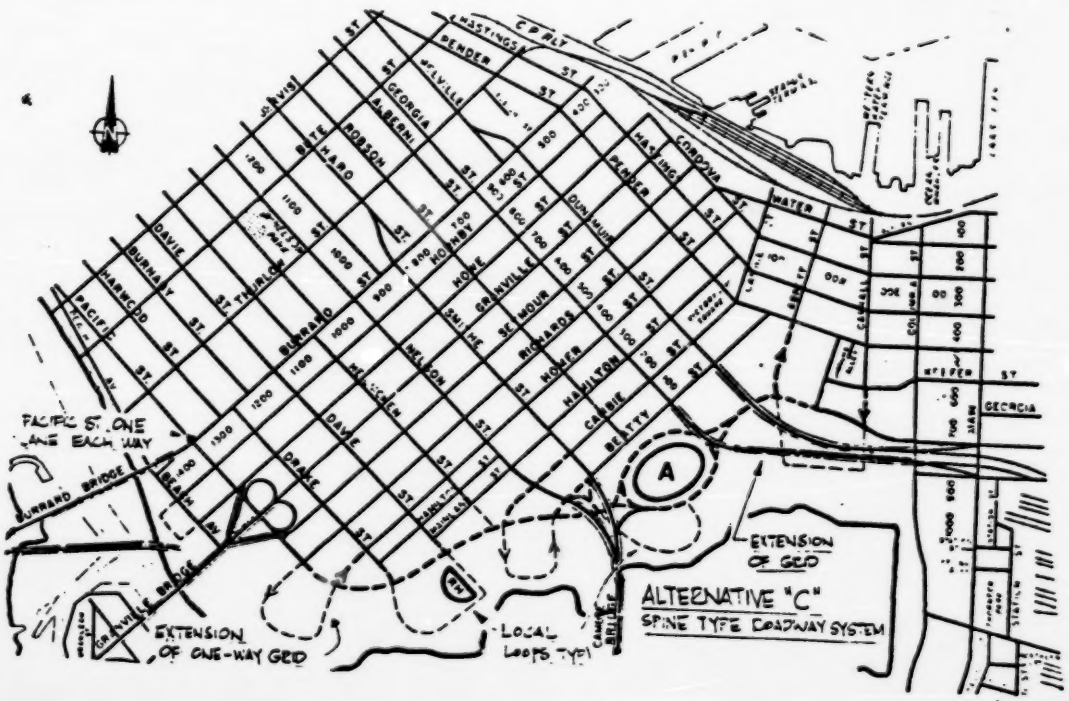
INCREASED TRANSIT USE
MODERATE STREET SYSTEM, BASED ON A CONTINUOUS SPINE SYSTEM

This alternative is similar to 'B', except that the roadway plan is modified to a spine system, as proposed by BC Place. Again, transit use is to be increased from 50:50 to 60:40 by means of the LRT line and commuter train, as well as direct and convenient bus service. For Amphitheatre events, park-and-ride as well as shuttle services would increase transit use from 5-10% to about 25%. As mentioned, the road system is based on a single spine, instead of a one-way grid. The advantages of this are less roadway acreage overall, and traffic further from the waterfront. The disadvantages are more difficult left turns, and a wider street (similar to Burrard Street).

There is no connection to Strathcona, and Pacific Street at Burrard has been limited to only one lane in each direction, the minimum needed to serve West End residents. Local access in BC Place would be from a series of short loops, some providing access to the water's edge.

C





ALTERNATIVE 'D'

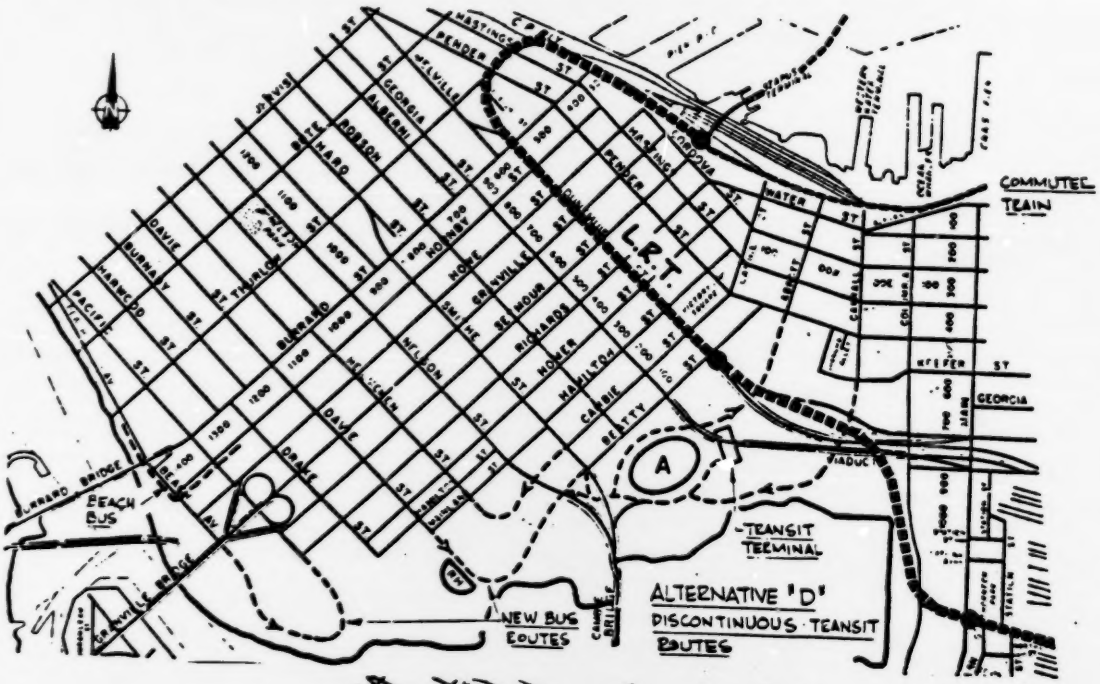
DISCONTINUOUS STREET SYSTEM
DISCONTINUOUS TRANSIT SYSTEM

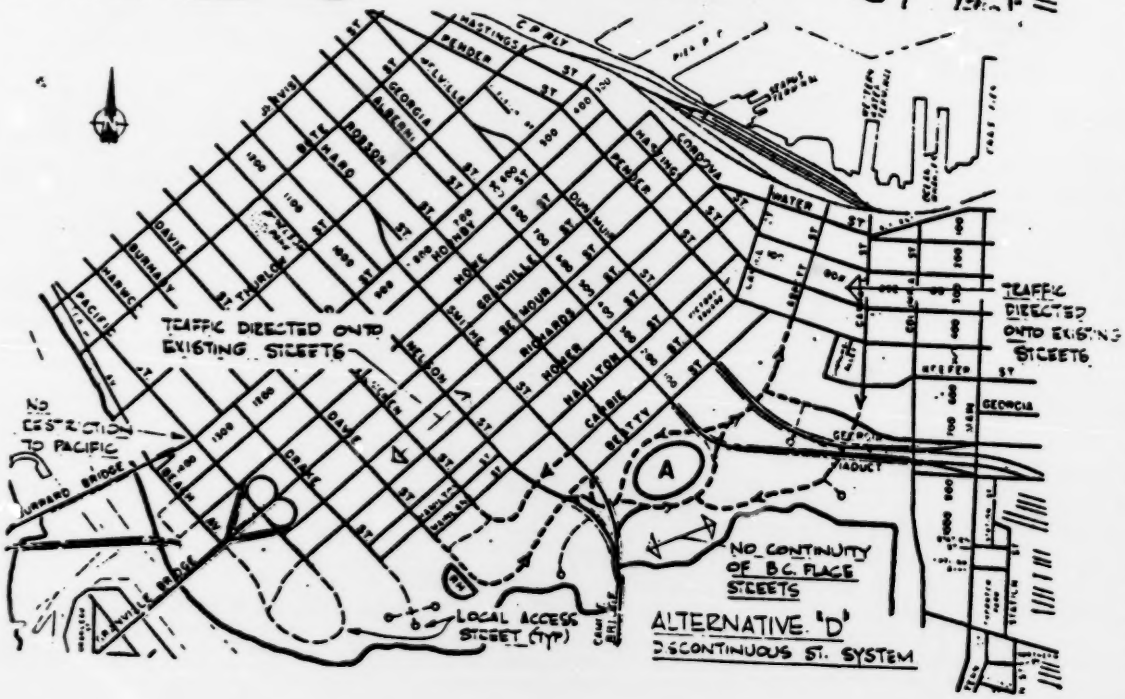
This alternative has the same aim of avoiding continuous east-west routes through the site, and utilising the bus as much as feasible.

The road system has been changed to be discontinuous. Existing downtown streets would be extended into the site, and looped back out without cross connection. Buses and other traffic would use these streets, passing through the existing downtown, Valetown and Chinatown to reach major approach routes. Local access would be from these same streets, with minimal access to the water's edge. There would be no arterial connection to either Strathcona or the West End.

Because of the discontinuous system, BC Place residents would not have bus access to the LRT Station, nor to the adjacent employment opportunities. There could not be direct bus access from the Burrard and Granville bridges to the Amphitheatre; instead, streets in the congested core would have to be used. Accordingly, anticipated transit use would be considerably lower, ie about 40:60 in the peak and 15-20% for Amphitheatre events.

D




TRAFFIC DIRECTED ONTO EXISTING STREETS
TRAFFIC DIRECTED ONTO EXISTING STREETS
NO RESTRICTION TO PACIFIC
NO CONTINUITY OF BC PLACE STREETS
LOCAL ACCESS STREET (TYP)
ALTERNATIVE 'D'
DISCONTINUOUS ST. SYSTEM

ALTERNATIVE 'E'

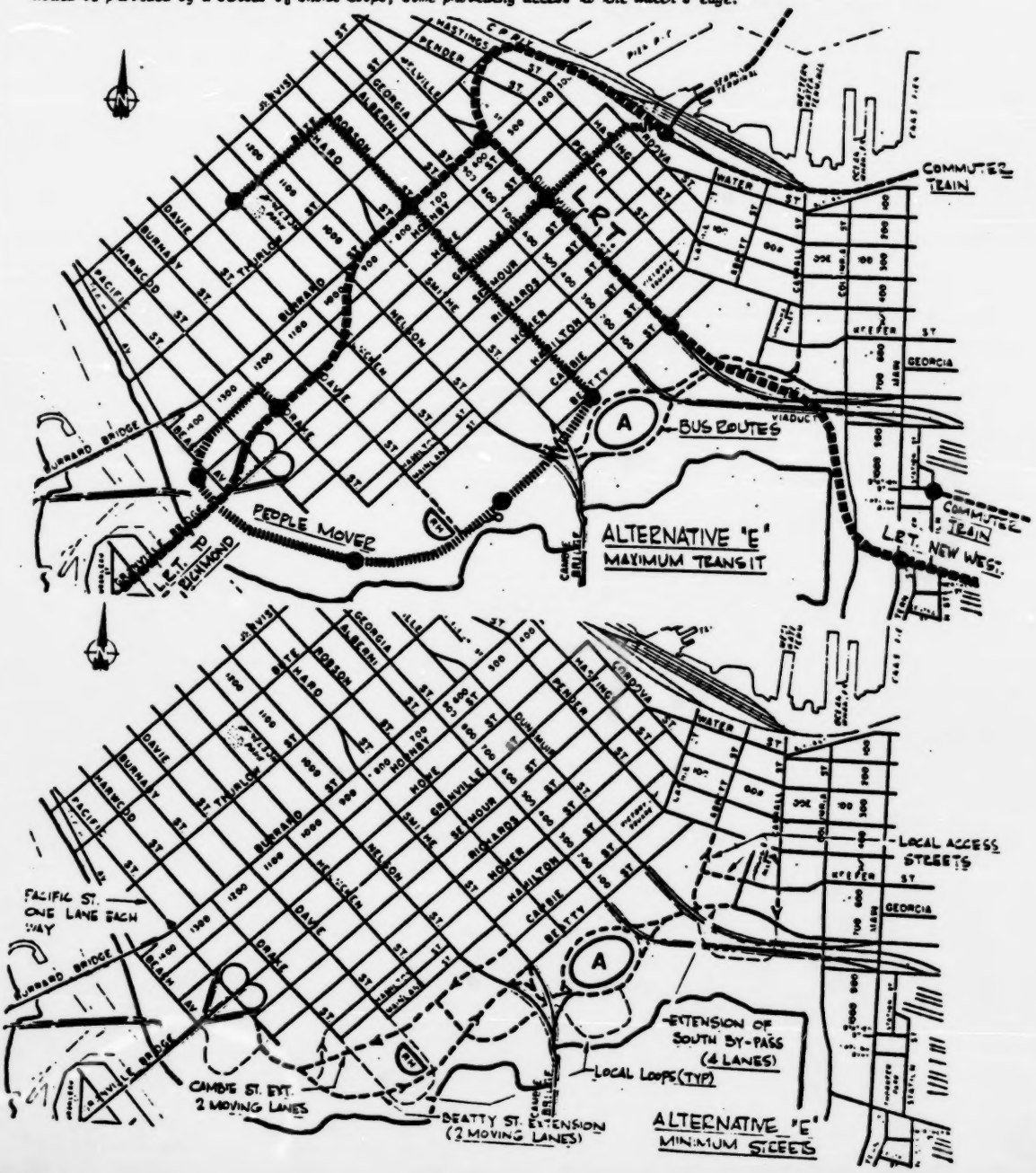
- MAXIMUM TRANSIT USE
- MINIMUM EXTENSIONS OF EXISTING STREET SYSTEMS

This alternative aims to raise transit use far above levels generally prevailing in the downtown area. At present, commuters arrive 50% by bus, 50% by car. With one LRT line and commuter train service, the Downtown Transportation Plan and alternatives B, C and D hope to increase transit use to 60:40. However, this alternative would further increase transit facilities. This option includes a number of transit incentives:

- addition of an LRT line to Richmond;
- consideration of further LRT lines to UBC or North Shore;
- completion of at least one more commuter train line, with additional trains and one ore more stops in East Vancouver;
- consideration of additional commuter trains on CN and BC rail tracks;
- addition of park-and-ride lots at LRT and commuter train stops;
- an independent people-mover system along the BC Place site, with connections to downtown and both LRT lines;
- elaborate park-and-ride and shuttle services for Amphitheatre events, with transit fare included in the admission price.

With these incentives, it is believed transit use could be increased to 70:30 for commuters. For Amphitheatre events, the PNE and Seattle Kingdome presently attract 5-10% usage. With this transit alternative, this could possibly be increased to 40-50% by transit.

As a result, the road system on-site could be reduced considerably. Parking for the Amphitheatre could be reduced by perhaps half, to about 1000. The roadway system has been made partially discontinuous; only existing City streets are extended onto the site. While they are linked up, there is no single continuous route along the site. There is no connection to Strathcona. Pacific Street at Burrard has been limited to only one lane in each direction, the minimum needed to serve West End residents. Local access in BC Place would be provided by a series of short loops, some providing access to the water's edge.



ALTERNATIVE 'F'

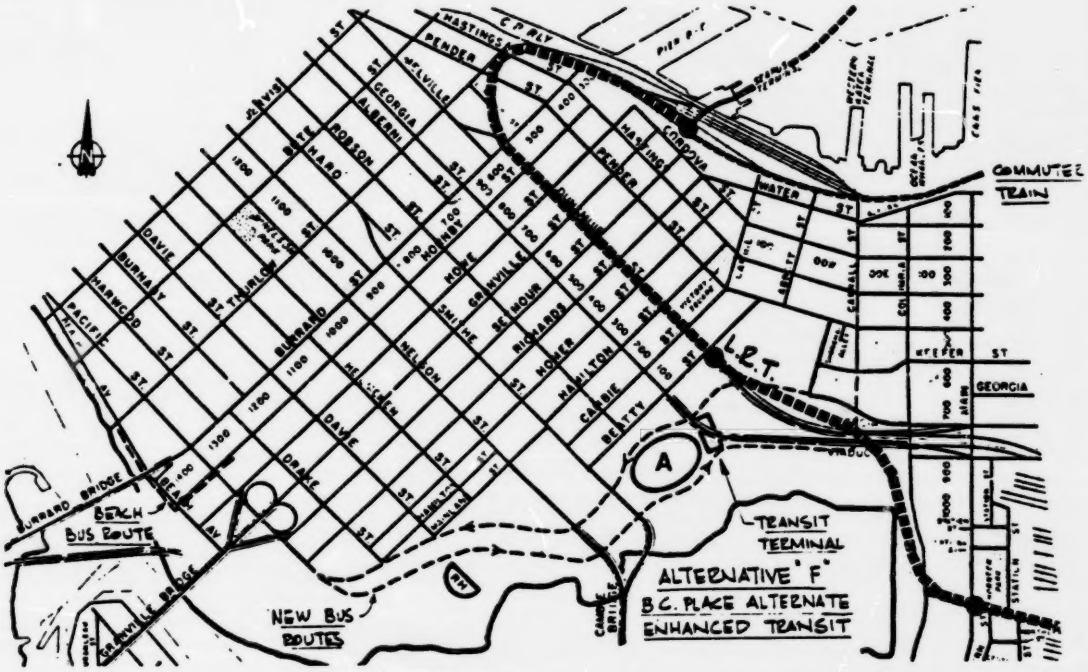
ALTERNATIVE SUBMITTED BY B.C. PLACE

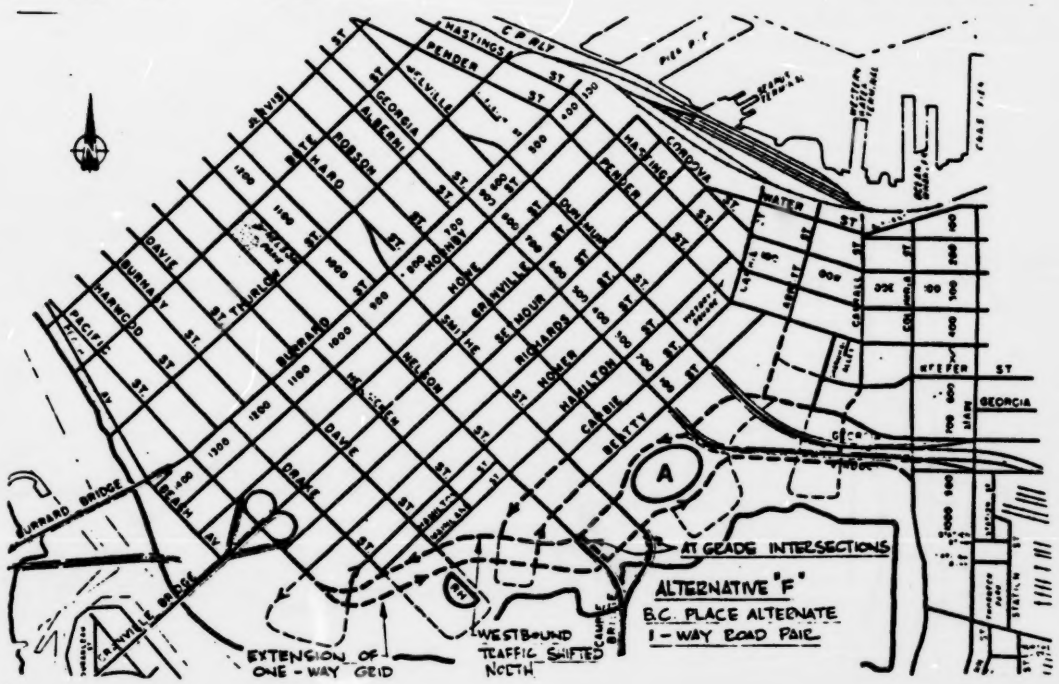
INCREASED TRANSIT USE
MODERATE STREET SYSTEM, BASED ON A ONE-WAY PAIR

This alternative has been submitted by B.C. Place as a possible replacement for Alternative 'C', and includes a number of variations. The spine roadway has been replaced on both portions of the site by a pair of one-way roadways. Because the southern edge of roadway is governed by the Expo '86 boundaries and by the Roundhouse, this change pushes the northern roadway closer to Yaletown. A major change in the approaches for the Cambie Street Bridge is also proposed, whereby the ramps would come down to grade immediately, meeting the B.C. Place roadways at three signalized intersections. There is no connection to Strathcona. Local access in B.C. Place would be from the one-way streets and from a series of short loops, as well as from Beatty Street.

As with 'C', transit use is to be significantly improved over existing levels, from the present 50:50 to 60:40. To achieve this, the planned LRT line and commuter-train service would be augmented by direct and convenient bus service. For Amphitheatre events, park-and-ride as well as shuttle services would increase transit use to about 25% from the present 5-10%.

F





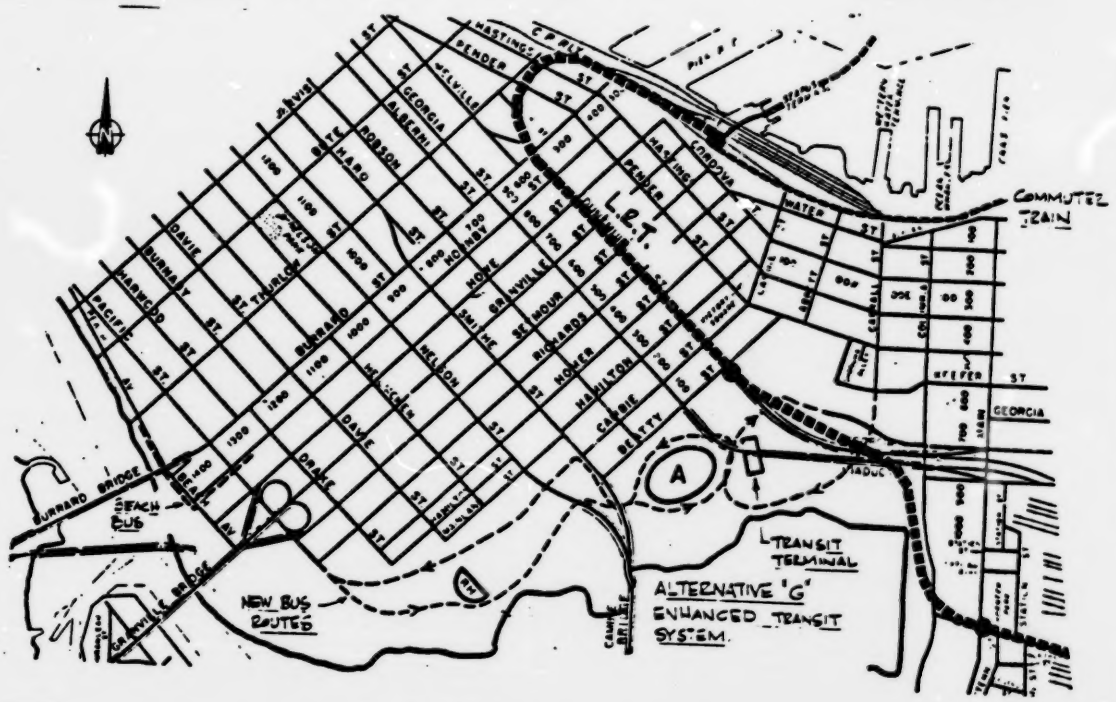
ALTERNATIVE 'G'

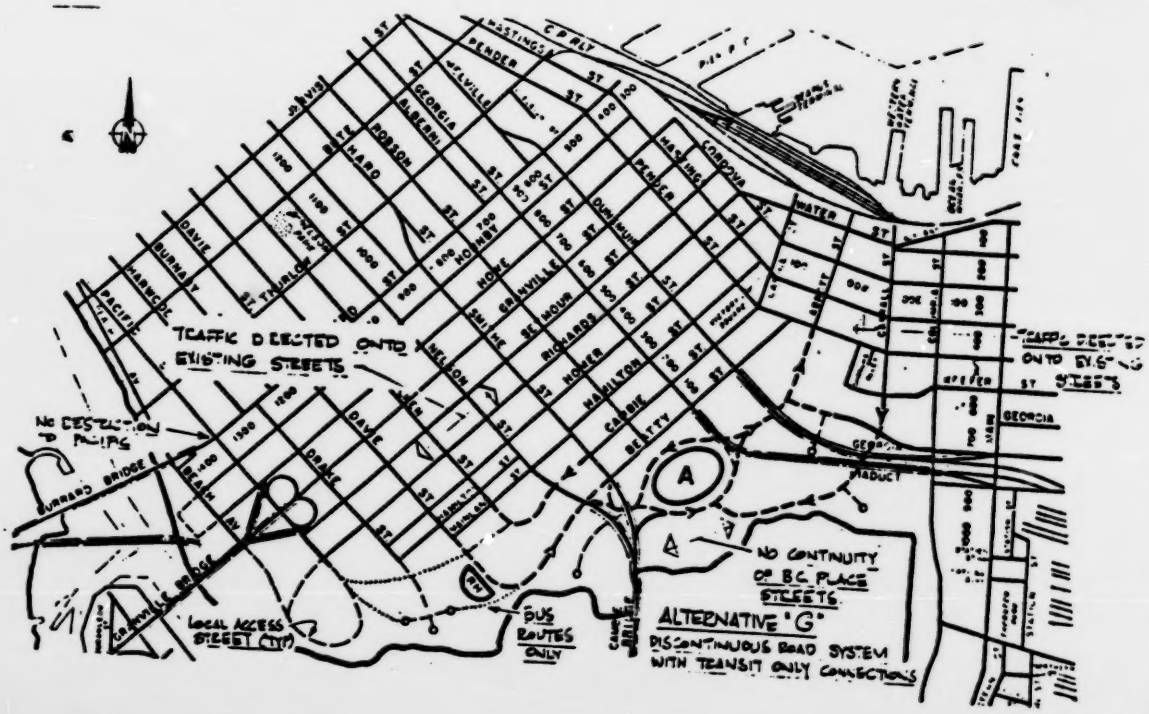
- INCREASED TRANSIT USE
  DISCONTINUOUS STREET SYSTEM WITH TRANSIT-ONLY CONNECTIONS

This alternative aims to raise transit use from the present 50:50 to 60:40 by means of new and improved bus routes, LRT and the commuter train. For Amphitheatre events, provision of a bus terminal with park-and-ride as well as shuttle bus services is expected to increase transit use to about 25%.

To discourage through traffic, the roadway plan has been made discontinuous. Thus, instead of driving along the B.C. Place site on internal roadways, residents and visitors would approach the site on existing City streets. To provide for bus routes, transit-only streets would provide continuous connections along the site. No restriction to Pacific Street is proposed and no connection is made to Strathcona. Local access in B.C. Place would be from any of the streets except the transit connections.

G




TRAFFIC DIRECTED ONTO EXISTING STREETS
NO CONTINUITY OF B.C. PLACE STREETS
BUS ROUTES ONLY
LOCAL ACCESS STREET (TYP.)
ALTERNATIVE 'G'
DISCONTINUOUS ROAD SYSTEM WITH TRANSIT ONLY CONNECTIONS

ALTERNATIVE 'H'

INCRIASED TRANSIT USE
MODERATE STREET SYSTEM, PAIR OF TWO-WAY ROADS

This plan is based on enhanced transit facilities raising modal split to 60:40 from the present 50:50. Similar to several other alternatives, Amphitheatre bus services would earn a 25% share compared to the present 5-10%.

The street system is reduced from the normal density of streets prevalent in the downtown area. The western portion of the site, which would be primarily residential, has a pair of two-way streets, one of which provides some glimpses of the water. The eastern portion of the site has a pair of one-way streets to serve the commercial development. In addition, a series of local cross-streets would provide access to property. No connection to Strathcona is proposed.